

# Centre Region Climate Change Action Plan

## Inventory and action planning results

Brent Yarnal



# Acknowledgements

- Penn State: Howard Greenberg, Peter Howe, & Kevin Hillmer-Pegram
- Borough of State College: Mark Whitfield, Tom Fontaine, & Alan Sam
- Pennsylvania DEP
- Centre Region COG
- Townships of College, Ferguson, Harris, Halfmoon, & Patton



# Overview

- Background to Centre Region CCAP
- Five-phase work plan
- Centre Region inventory
- Where we are

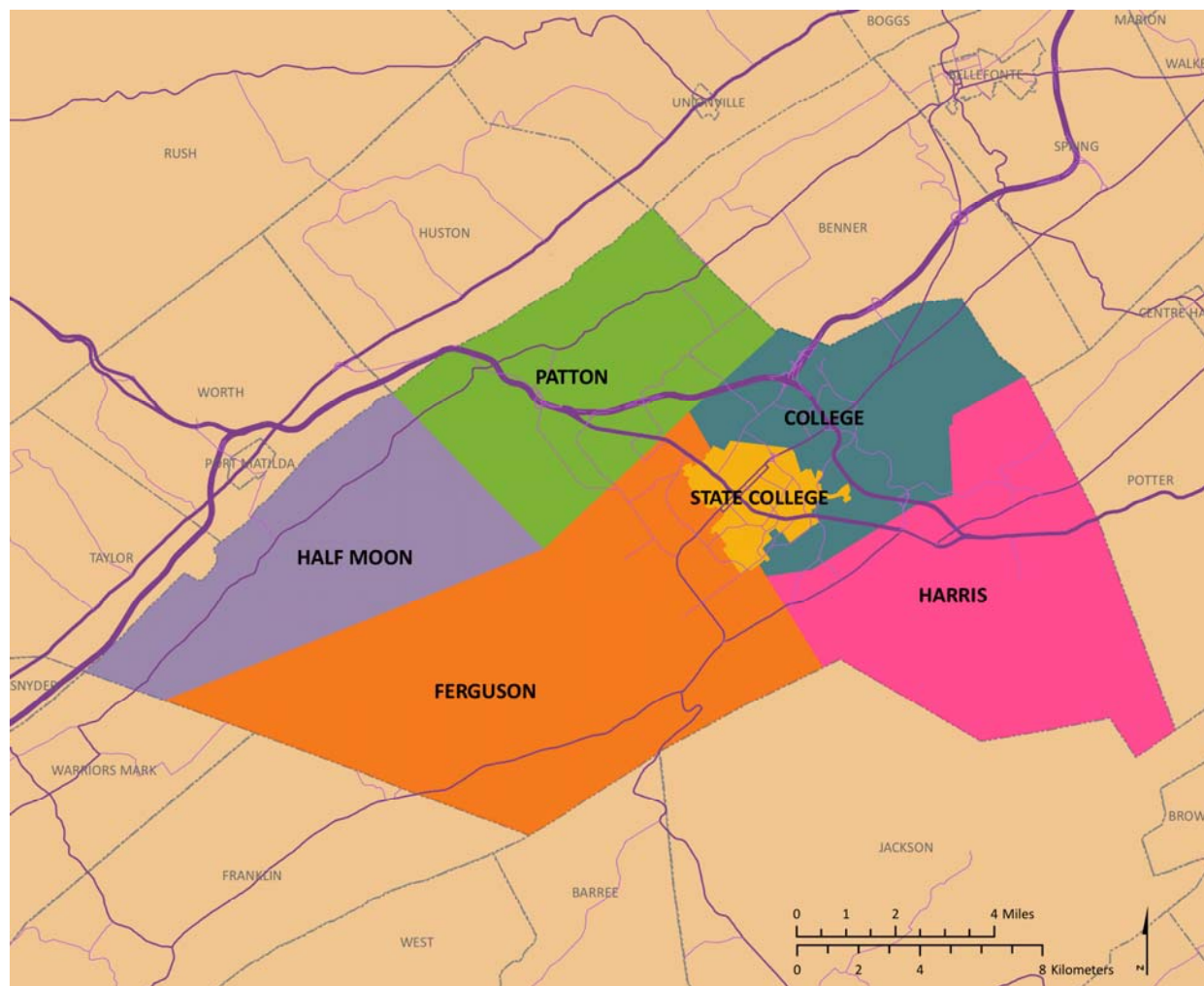


# Background to Centre Region CCAP

- Previous inventories
- State College Borough
  - Inventory
  - Climate change action planning
  - Borough Resolution 944
  - Desire to expand to regional level



## The Centre Region





# Five-phase work plan

- Phase 1: Inventory GHG emissions
- Phase 2: Identify mitigation options
- Phase 3: Flesh out mitigation options
- Phase 4: Prioritize mitigation options
- Phase 5: Draft regional climate action plan





Centre Region Climate Change Action Plan: Phase I



## Centre Region Greenhouse Gas Emissions Inventory

Peter D. Howe  
Edited by Brent Yarnal & Howard Greenberg

Department of Geography  
The Pennsylvania State University

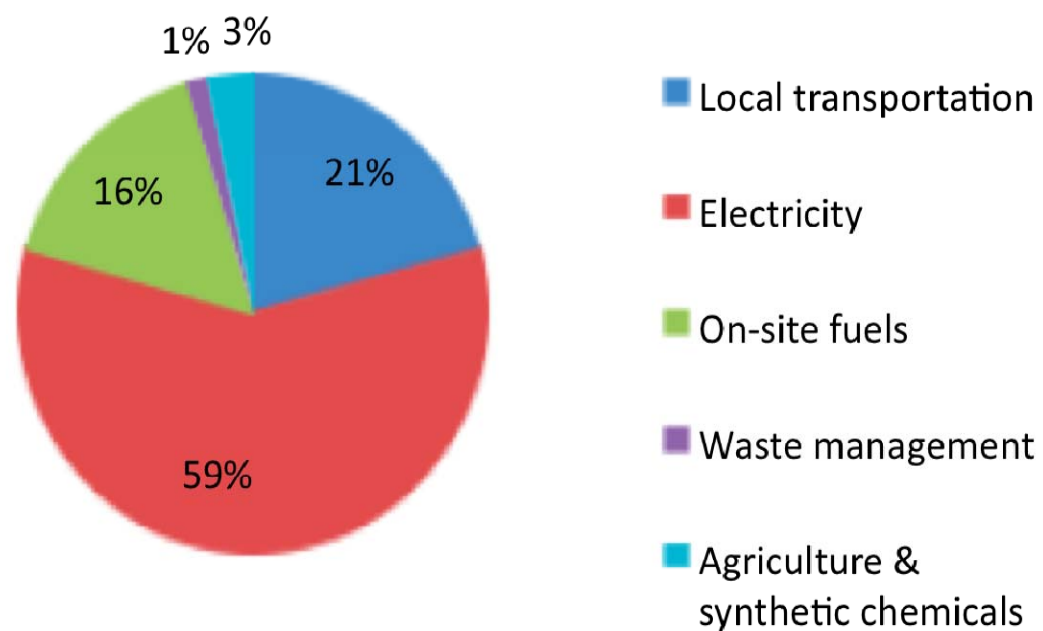
## 2006 GHG emissions by sector in the Centre Region and municipalities (MTCO<sub>2</sub>e)

	College	Ferguson	Halfmoon	Harris	Patton	State College	Centre Region
Local transportation	19,888	37,686	7,365	10,562	31,021	39,950	146,473
Electricity	45,757	87,887	16,158	35,682	82,183	144,872	412,539
On-site fuels	15,380	26,670	4,259	8,636	15,440	43,293	113,678
Waste management	1,133	2,192	465	643	1,834	4,110	10,377
Agriculture & synthetic chemicals	1,005	11,864	3,989	2,301	2,288	59	21,506
Total	83,162	166,301	32,236	57,826	132,765	232,284	704,574

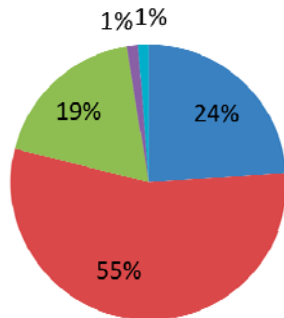




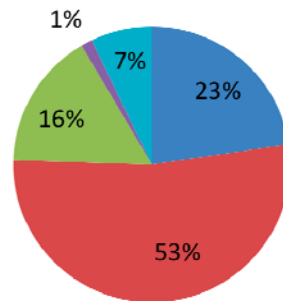
## Centre Region Emissions by Sector



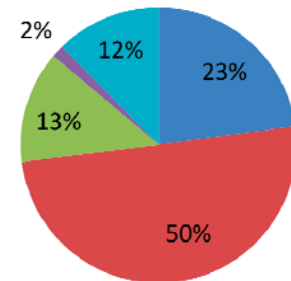
**College Township**



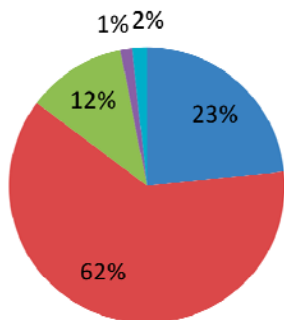
**Ferguson Township**



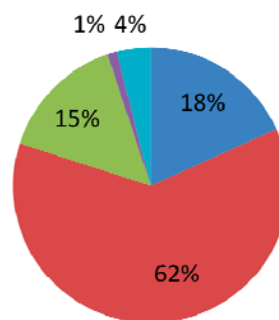
**Halfmoon Township**



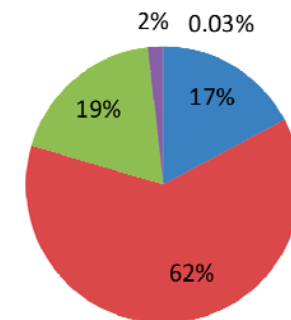
**Patton Township**



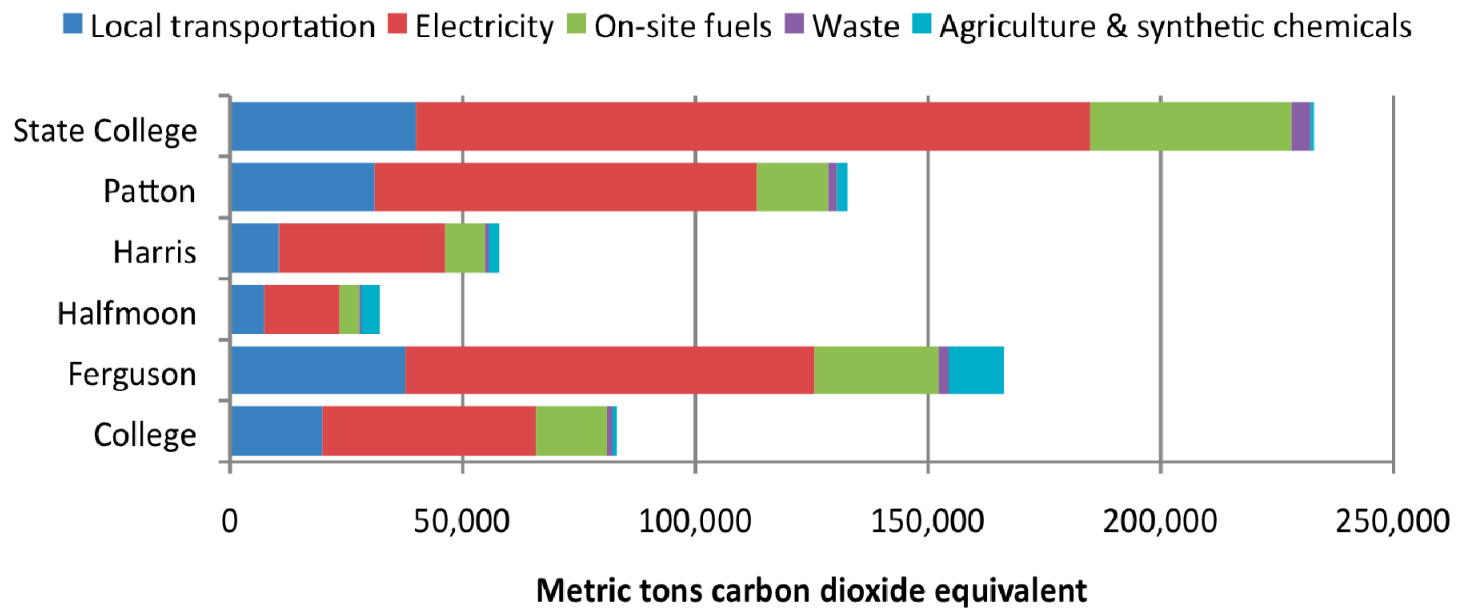
**Harris Township**



**State College Borough**

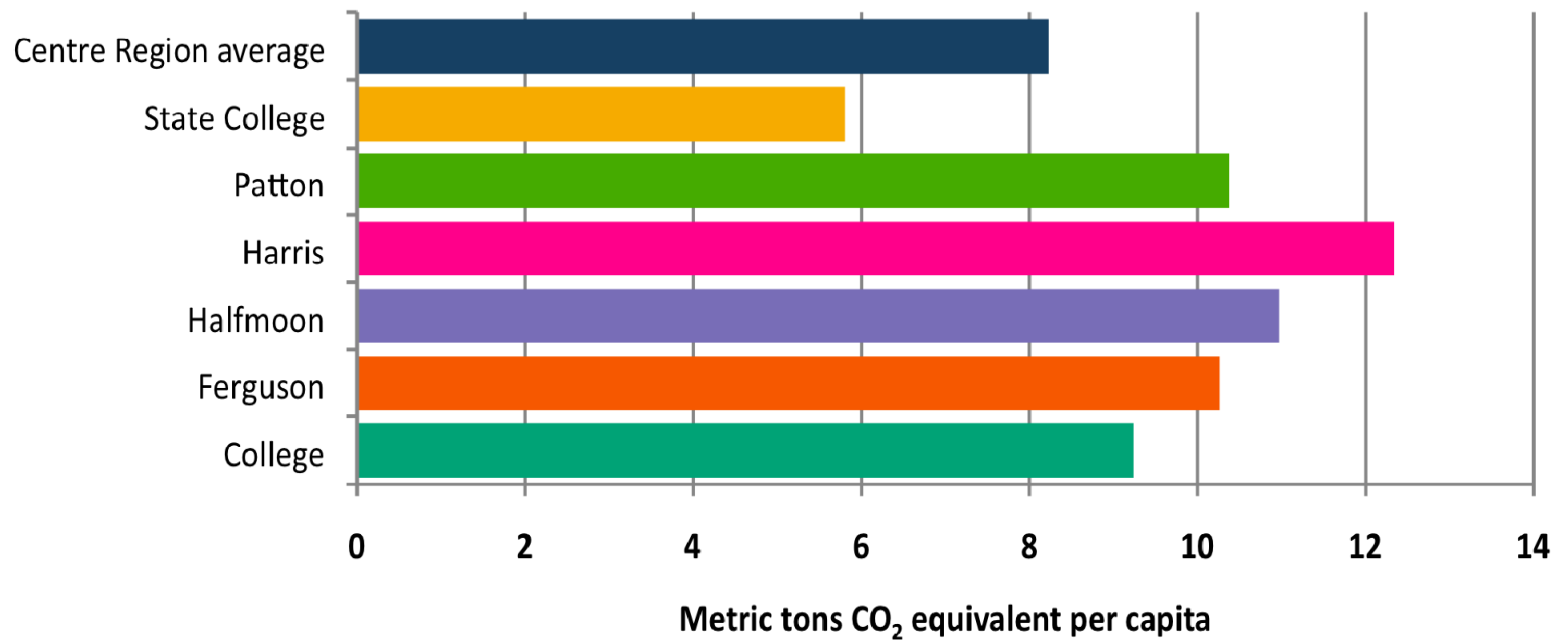


## Total Emissions by Sector and Municipality

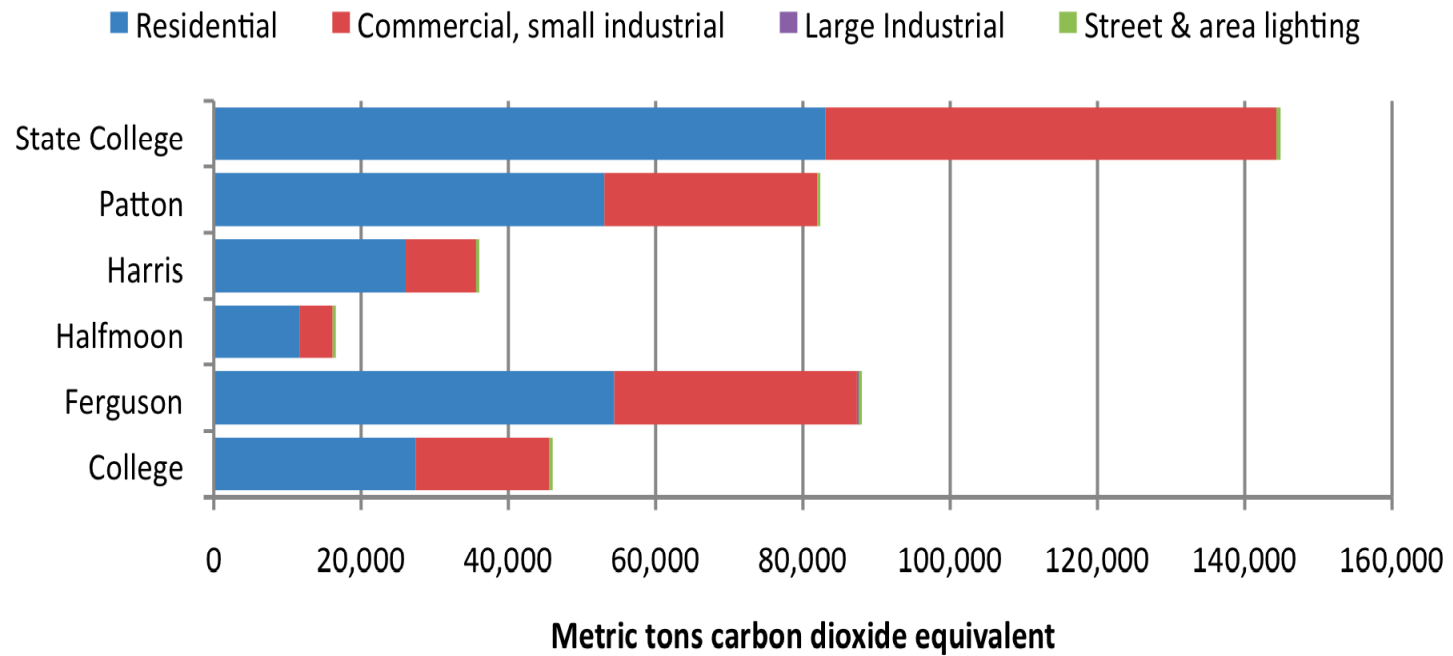




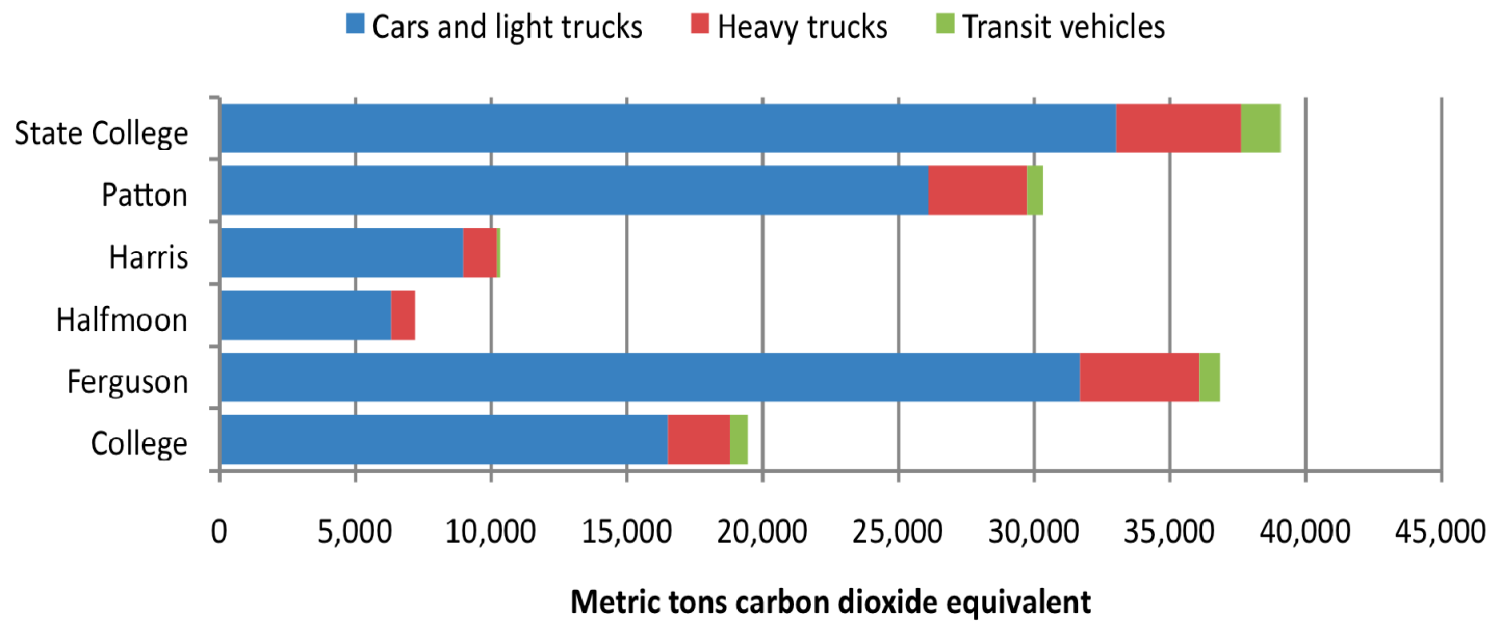
### Total Emissions *per capita*



## Electricity Emissions by Consumer Sector



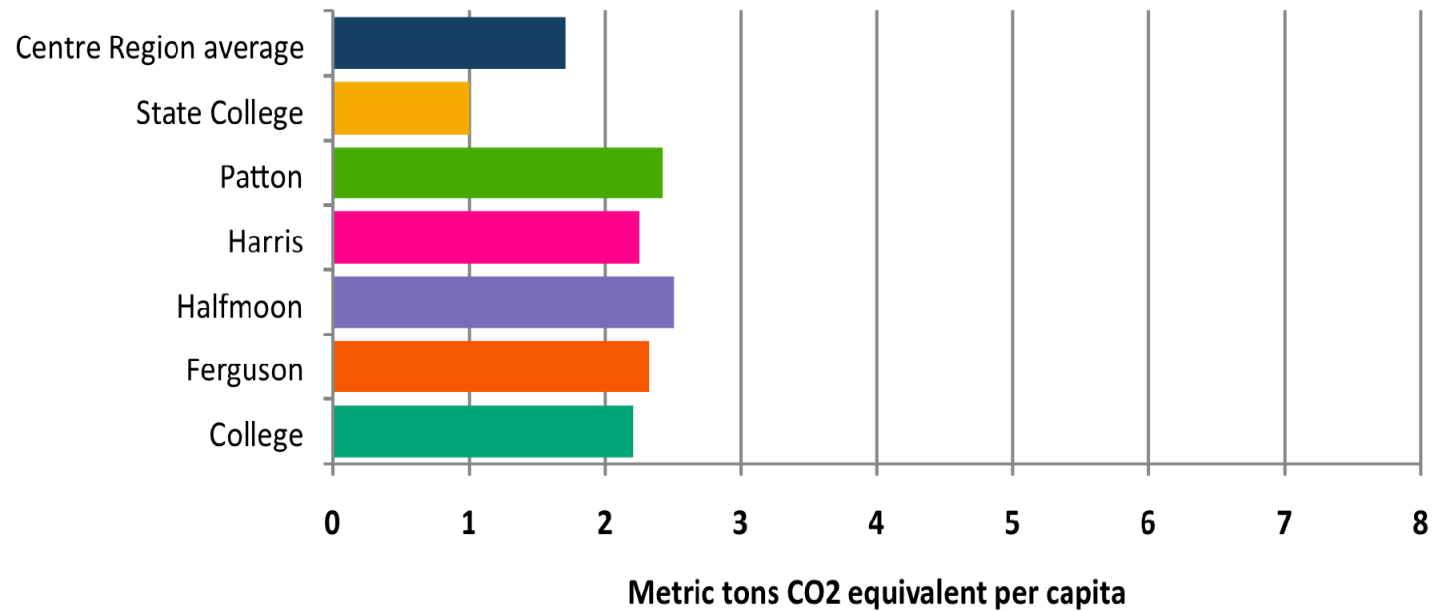
## Transportation Emissions



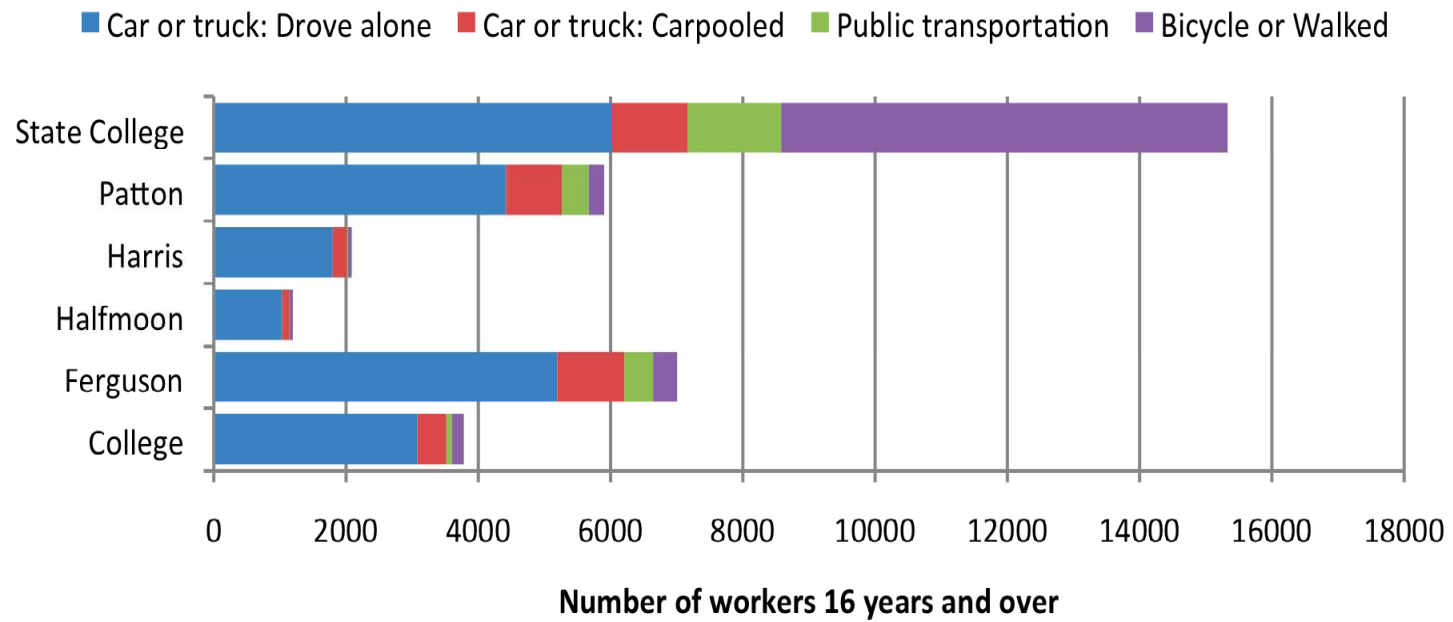




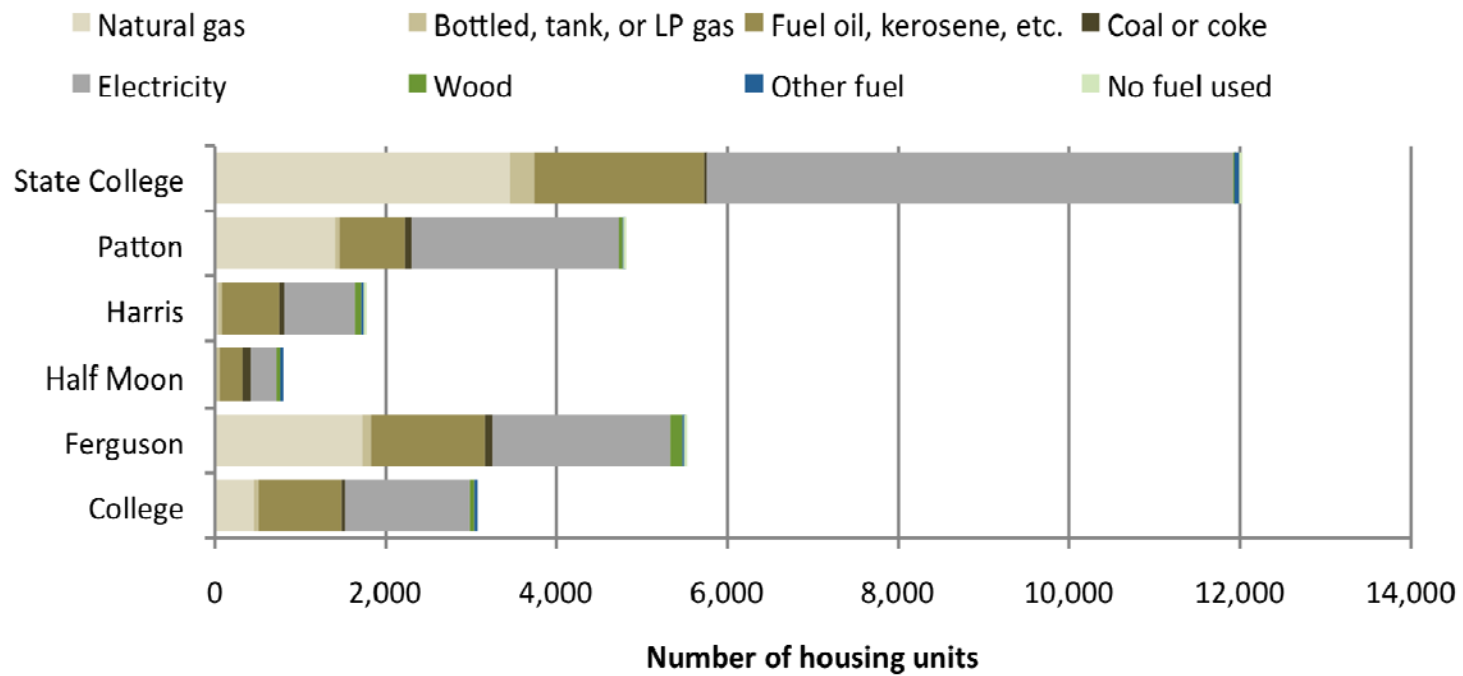
### Transportation Emissions *per capita*



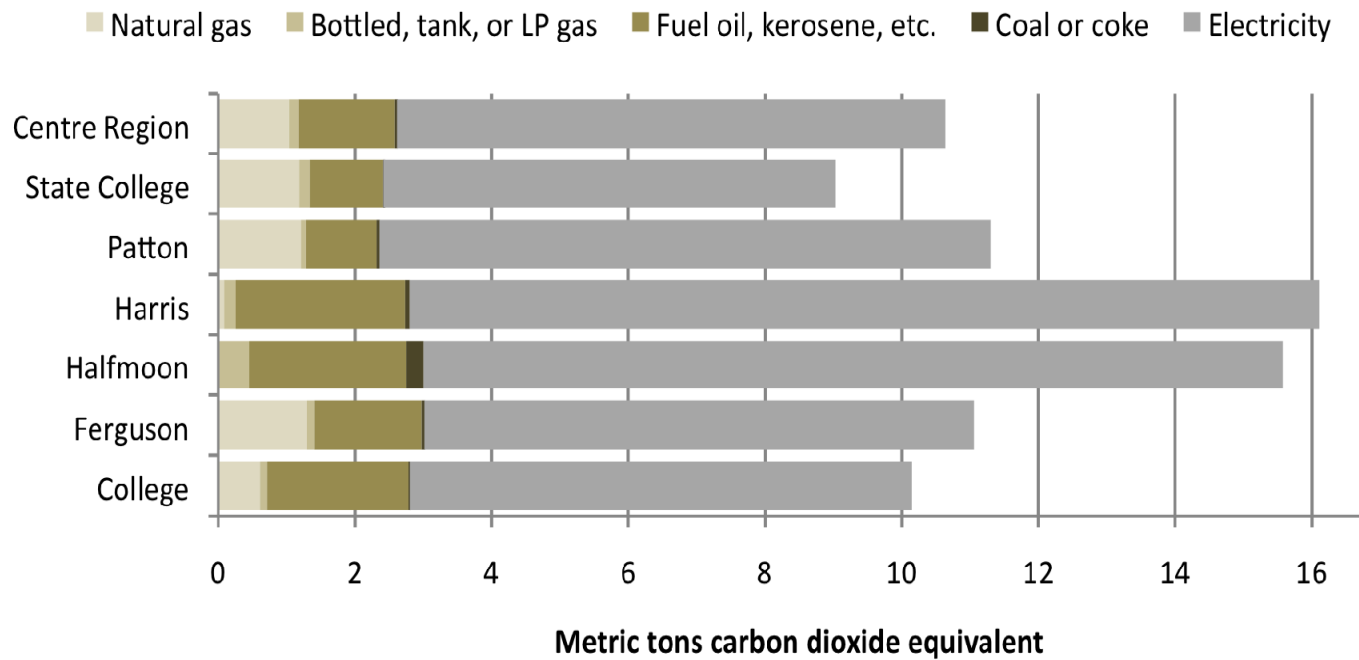
## Commute Mode Choice



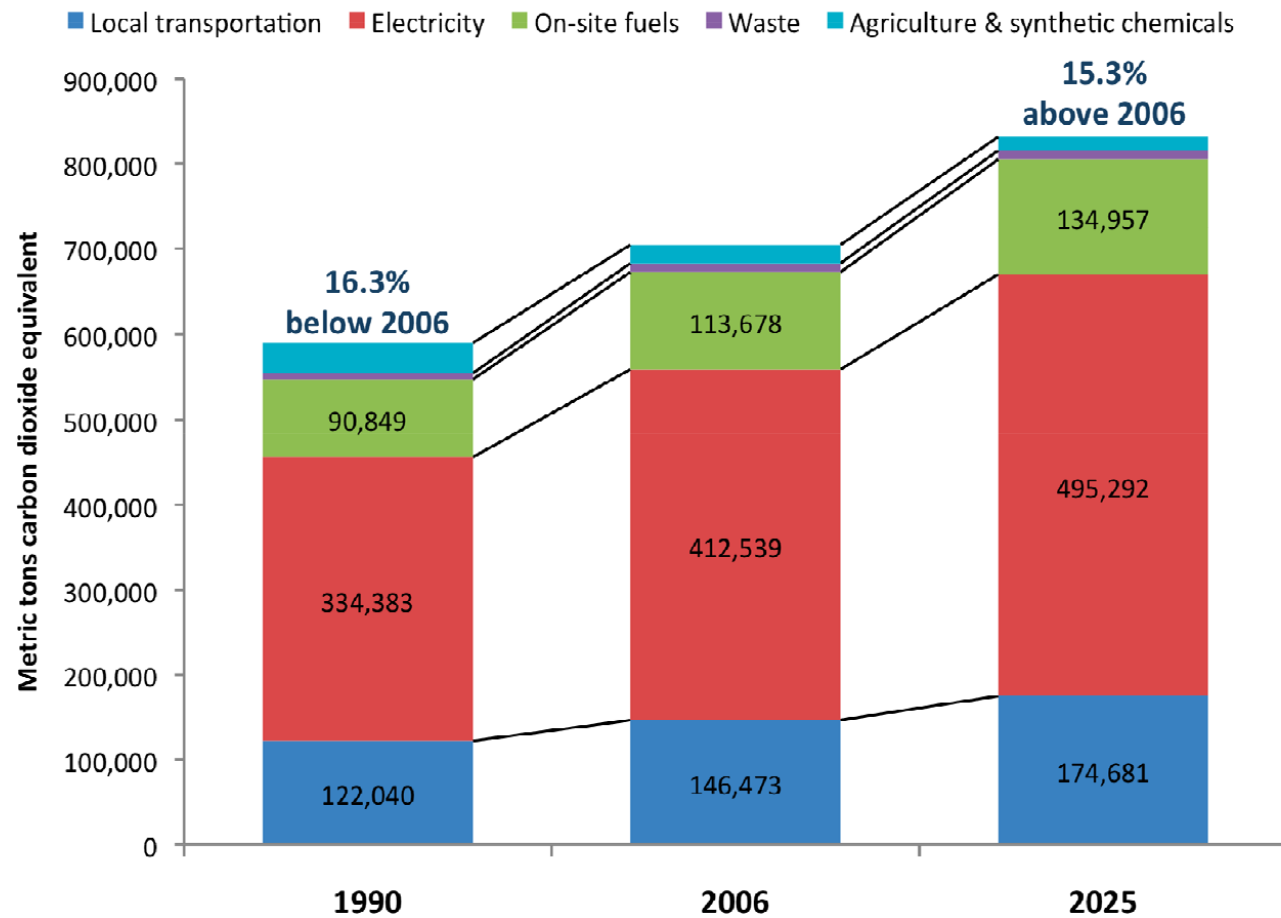
## Household heating fuel types



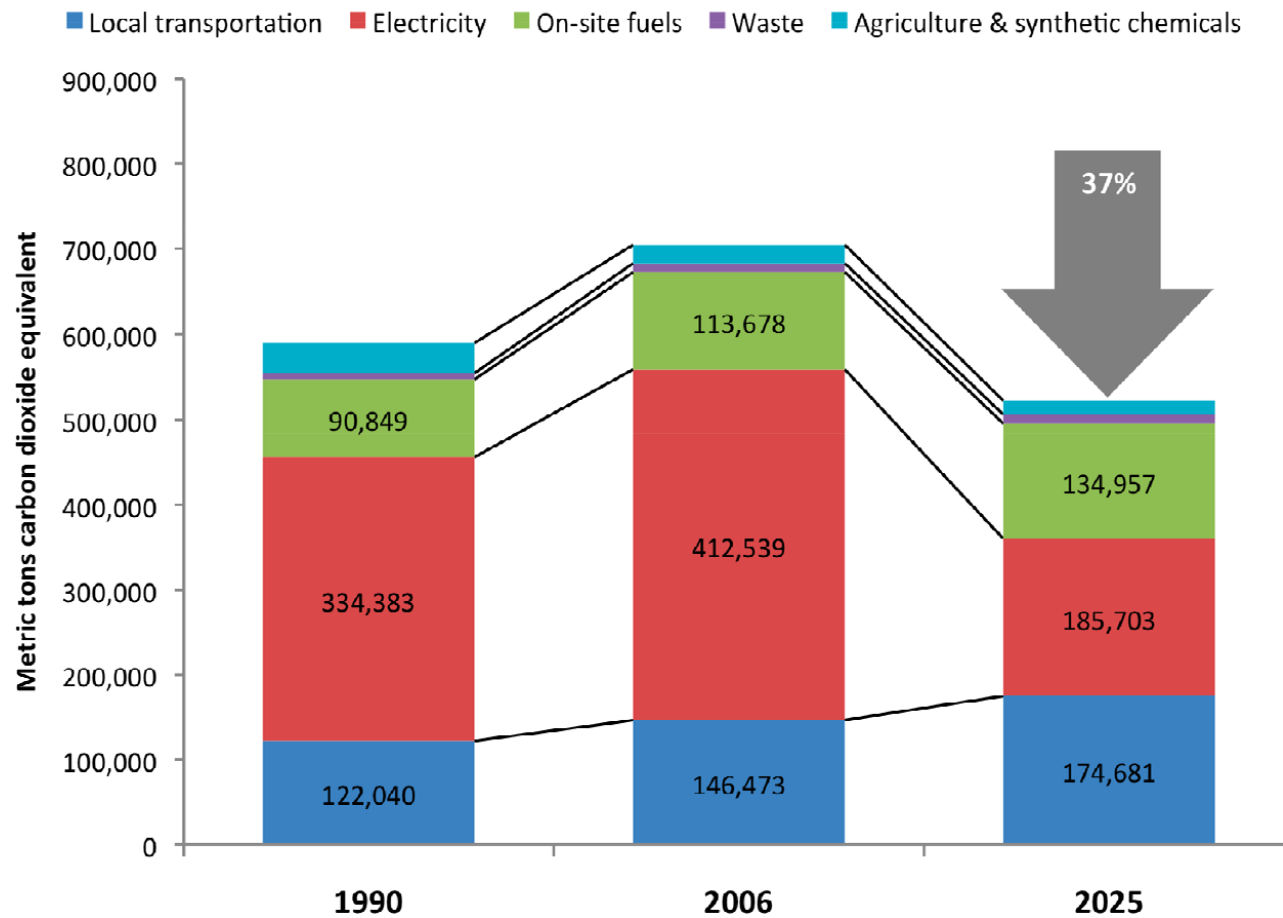
### Emissions from Electricity and On-site Fuels Per Housing Unit



### Emissions Projections: 1990-2006-2025

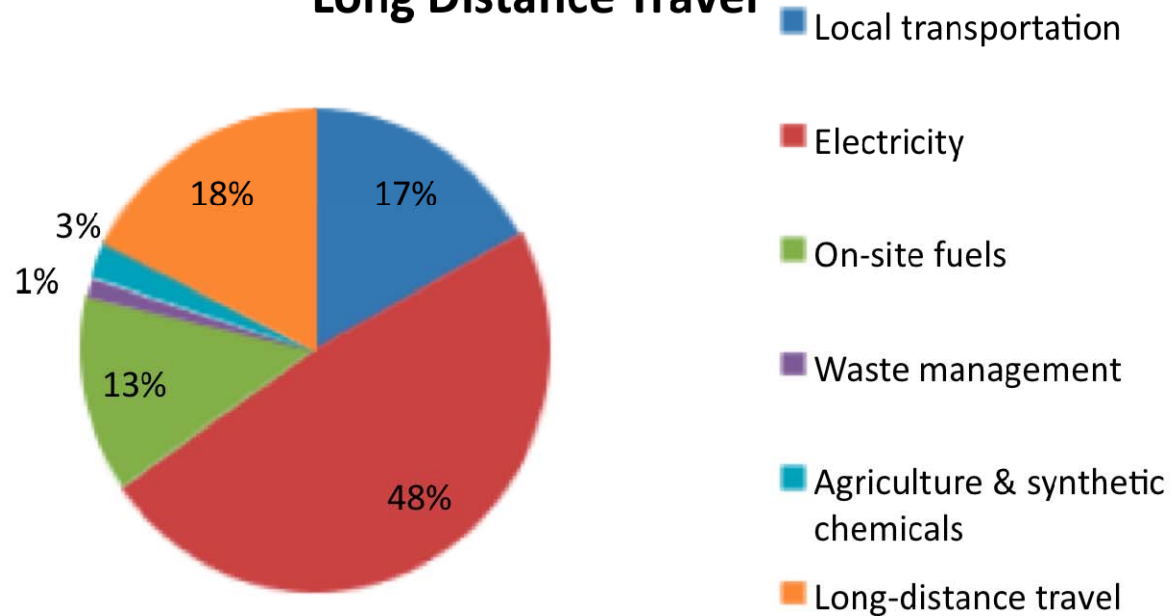


### Scenario: Wind Energy Credits for Households





## Centre Region Emissions by Sector, including Long Distance Travel



# Next steps

- Phases 1-4 complete
- Phase 5 starts tomorrow
  - Complete by early December



